PROJECT NUMBER : 2707
PROJECT TITLE : Vision Inspection Technologies
PROJECT LEADER : R. J. Maher
PERIOD COVERED : July, 1991

I. PACK INSPECTION SYSTEM

A. Objective: Develop and implement an on-line cigarette pack inspection system with the capability for global inspection.

B. Results: The QA force feed test was done this month. This test was designed to obtain the inspection efficiencies of the OSIRIS system, the CI-750 (3 camera Itran) and the MVP (2 camera Itran). The OSIRIS system had been trained using packs from packers 93 and 94. No operational difficulties were encountered during the test. It was necessary to perform one adapt in order to reduce a high number of nuisance rejects observed during the first pass. QA is planning to report the test results in August.

The computer hangs with the OSIRIS system is a result of the software. A new release of the microcode has been received from Matrox and will be tested on the laboratory system.

Progress has been made on the incorporation of the warp code into the current operating software. This effort will simplify the definition and modification of both the pack gauge overlay and the inspection zones.

The support effort required by Itran in their development of the FS-Osiris system has remained minimal.

C. Plans: Test the most recent Matrox software release in order to eliminate the computer hangs. Complete the incorporation of the warp code into the current system. Begin to incorporate the code that will periodically sample a good pack and automatically incorporate the information into the inspection filter.

II. PRINT WEB INSPECTION

A. Objective: Develop a system for the global inspection of print web on the printing press.

B. Results: Preparations for building the prototype on-line web inspection system are in progress. Because of CHP shutting down for 3 months for HVAC renovations, the definition of the prototype system has changed. It is now felt that the best system to place at CHP will be a 4 camera system. This system will be used to both characterize the CHP web and to demonstrate the inspection capability.

The DataCube Maxvideo20 board and the Maxscan 10MHz board have been installed in the Sun4 computer in the laboratory. This imaging system has been used with an RS-170 array camera in order to verify correct operation. Some problems have been uncovered and a solution is being sought via DataCube.

The second Dalsa TDI camera has been received and has been successfully tested.

Work continues on the design of the explosion-proof enclosures with the help of Development Engineering.

Discussions continue with vendors that claim 100% web inspection capability. Eltromat will present their system at the PRINT '91 Conference in September. Representatives from Presco Technology are planning to discuss their system at PM during the month of August.

C. Plans: Begin the integration of the hardware for the prototype system. Identify and acquire suitable explosion-proof enclosures with the help of Development Engineering. Continue to evaluate commercially available web inspection systems.

III. OFF-LINE INSPECTION

A. Objective: Develop and implement a system for the inspection of incoming materials.

B. Results: All components for the two color QA blank inspections system have been ordered. The longest delivery item will be the material handling-motion control system ordered from PST, Inc. Delivery of the material handling-motion control system is slated for October.

The design of the user interface was completed and is currently being reviewed.

Larry Brice from the QA Department has compiled a list of the vendors of the incoming materials that will be inspected by the two color system and has obtained a list of the individual codes. He has prioritized the list of incoming materials that will be inspected. The list was prioritized for inclusion into the inspection system database.

C. Plans: Complete the algorithm implementation and begin coding the user interface.